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New Bomber Described As a Flying-Wing Craft

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WASHINGTON, Aug. 9 — The supersecret Stealth bomber being developed by the Air Force is the shape of a flying wing, essentially an aircraft with no fuselage or tail, Senator Barry Goldwater said today in the first public confirmation by a Government official of the bomber's design.

Mr. Goldwater, an Arizona Republican who is chairman of the Senate Armed Services Committee, said through an aide that a year ago he saw a full-scale model of the warplane, which is to succeed the B-1 bomber in the 1990's, and would be examining it again next week on the West Coast.

"It does look like a flying wing," he said, adding that the Air Force would soon begin to build a working prototype for test flights.

There has been intense speculation about the unconventional flying-wing design in technical journals for several years. But the Defense Department has kept tight security over the Stealth program since its existence was disclosed by the Carter Administration in 1980.

The Least Detectable Shape

The flying-wing design is thought to offer the least detectable shape to enemy radar, as there would be no high tail or broad fuselage to reflect incoming radar signals.

The Northrop Corporation in Los Angeles is the prime development contractor for the new aircraft. Northrop built and flew flying-wing military aircraft in the 1940's, but an Air Force plan to acquire large fleets of flying wings was never achieved.

Like the B-1, the Stealth bomber is designed to fly through enemy air defenses and drop nuclear bombs. The B-1 would rely mostly on low-level flight and electronic jamming to evade detection by defensive radars for as long as possible. But a flying-wing Stealth bomber would take advantage of its thin profile and new, radar-absorbent structural materials to attract far less notice than the B-1.

The Pentagon has yet to disclose any cost figures for the Stealth bomber, which is officially called the Advanced Technology Bomber. Wall Street analysts estimate that Northrop has received $1 billion annually from the Stealth program.

'Radar Signature' Is Reduced

"By taking a more conventionally designed airplane like the B-1, fundamental limitations exist as to how much you can do to reduce the radar signature," the Air Force wrote recently in a rare comment on the Stealth bomber. "Radar signature" is a term used by the military in reference to the detection of radar signals.

A Northrop official said today that the company was building for the Air Force a new facility at Plant 42 at a desert airfield in Palmdale, Calif., about 50 miles north of Los Angeles. The space shuttle orbiter and a number of military aircraft, including the B-1 bomber, have been built in Palmdale.

The Omaha World-Herald reported in June that Senator Goldwater mentioned the Stealth bombers's flying-wing design while in a tour of Offutt Air Force Base in Nebraska. An aide to the Senator confirmed that report today.

While the Pentagon budget for developing the new bomber has been hidden among other secret programs, some members of Congress familiar with the project have expressed alarm about its magnitude.

In a hearing May 21 before the Defense Subcommittee of the Senate Appropriations Committee, William Proxmire, a Wisconsin Democrat, asked Robert S. Cooper, director of advanced research projects at the Pentagon, whether the first Stealth bomber might cost three times more than the B-1, which is now entering service at a cost of $200 million apiece.

Mr. Cooper agreed with Senator Proxmire's estimate but said the average cost comparison later on in production of Stealth bombers would be "much more comfortable."

Stealth Budget Is Protected

Because of concern that the Air Force might seek to divert funds from Stealth to extend production of B-1's beyond the 100 bombers approved by Congress, Robert C. Byrd of West Virginia, the Senate minority leader, introduced an amendment in May to the military programs bill for the fiscal year 1986 that would protect the Stealth budget. His concern was fueled partly by a House Armed Services Committee decision earlier this year not to recommend full funds for Stealth development next year. The Byrd amendment passed by voice vote.

When the House and Senate met in conference committee last month to resolve differences in their versions of the military programs bill, they approved all the funds requested by the Reagan Administration for the Stealth bomber.

The first flying-wing aircraft built by Northrop in the 1940's caused a controversy among engineers and military observers. The planes, one of which is in the Smithsonian Institution's Air and Space Museum here, had stability problems and, when propelled by jet engines, demonstrated only a marginal range for bomber missions.

With modern, computer-aided flight controls, engineers now believe the stability problems that plagued flying wings in the past can be solved. Range and weapon-carrying capacity, however, remain difficult issues, experts say. But the allure of a bomber able to evade radar detection has led designers to accept compromises that might otherwise be judged intolerable.